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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,965	06/21/2006	Young-Joo Yee	0630-2784PUS1	1536
2292 7590 08/13/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER HARRINGTON, ALICIA M	
			ART UNIT 2873	PAPER NUMBER
			NOTIFICATION DATE 08/13/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/583,965

Applicant(s)

YEE ET AL.

Examiner

Alicia M. Harrington

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-24 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-11, 25, 26 and 29-35 is/are rejected.
- 7) ☒ Claim(s) 3, 27, 28 is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/21/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. .
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 0906.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other:

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DETAILED ACTION

Information Disclosure Statement

The Examiner has considered the information disclosure statement filed on 9/21/06.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 9, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by He et al (Applied Optics Vol. 42, No 36).

Regarding claim 1, see figure 1 and section 2.

Regarding claim 2, see section 3.

Regarding claim 9, see section 2.

Regarding claim 11, see section 3.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the

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United States and was published under Article 21(2) of such treaty in the English language.

Claims 25,26,30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Kwon et al (US 2004/0263967).

Regarding claim 25, Kwon teaches an aspherical lens (320,321-see figures 3 and 7; section 47); a black matrix (300,330); a Fresnel lens (100)-sections 35-49.

Regarding claim 26, see section 69.

Regarding claim 29, see sections 40-47.

Regarding claim 31, see section 52.

Regarding claim 32, see section 50-52.

Claims 33,34 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuda (US 2004/0125048).

Regarding claims 33-34, Fukuda disclose a display device with an image processor and aspherical lenses (sections 9-10,28

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-7,8,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over He et al.

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Regarding claim 4, He fails to specifically disclose 100 percent of packing fraction. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature, since close pack structure is well known in the art and increase fill factor increase the transmittance efficiency of the light.

Regarding claims 5-7, 10, He fails to specifically disclose the claimed shapes. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include these features, since they are well known base structures that provide a closed packed micro lens structure; thus increasing the fill factor which increases the transmittance efficiency of the light.

Regarding claim 8, He fails to specifically disclose a resin. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al.

Claim 30 is a product by process claim. The method of manufacturing the black matrix of the lens array doesn't determine patentability in a product claim. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a method of manufacturing a black matrix, since it provides an black matrix with apertures and for aspherical micro lens and thus is a functional equivalent.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda.

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Regarding claim 35, Fukuda fails to specifically disclose type of the display device pixels/imagers. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a CCD or CMOS imager, since the technology is well known to imaging devices and each has its benefits, such as low cost and ease of integration with other devices.

Allowable Subject Matter

Claims 12, 24 are allowed.

Claims 3, 27, 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Prior art fails to fairly suggest a method for fabricating aspherical micro lens arrays comprising a third step of fabricating aspherical micro lens arrays having different curvature radiuses and conic coefficients, respectively, along two orthogonal axes on one surface of the micro lens arrays by providing and elongated force to the elastically-deformable spherical micro lens arrays; and a fourth step of fabricating a second mold having aspherical groove arrays, namely, a reversed phase of the aspherical micro lens arrays on one surface thereof; and reproducing the aspherical micro lens array using the second mold.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Johnson et al (US 2003/0002160) discloses elliptical micro lenses.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571 272 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alicia M Harrington
Primary Examiner
Art Unit 2873

AMH